Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

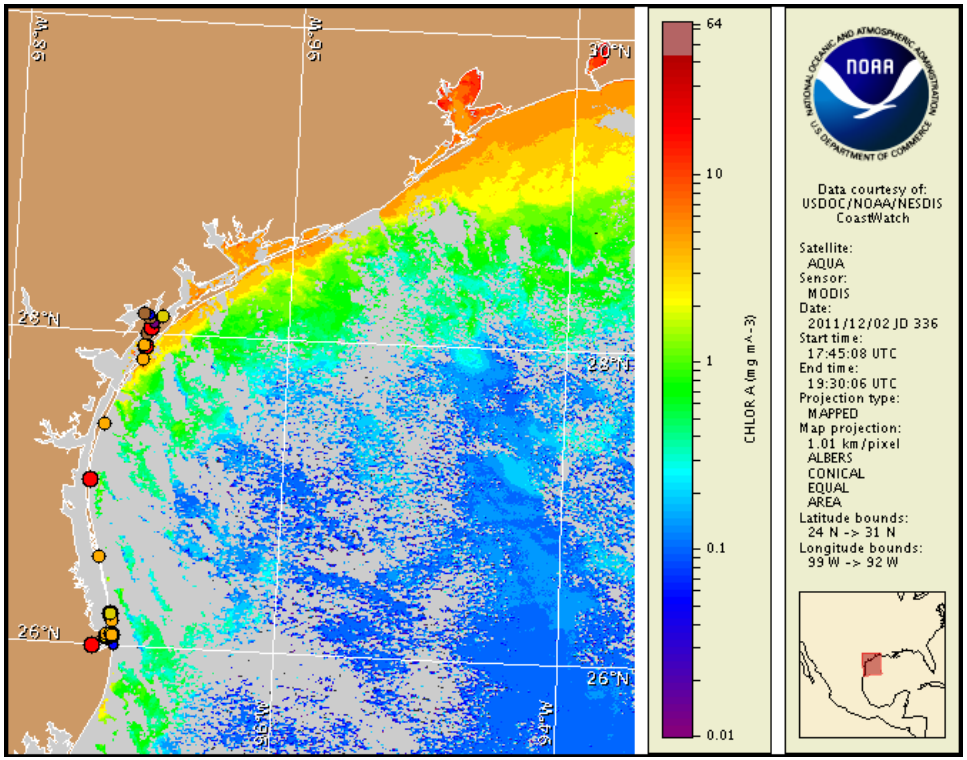
Monday, 05 December 2011

NOAA Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Thursday, December 1, 2011



Satellite chlorophyll image with possible HAB areas shown by red polygon(s). Cell concentration sampling data from November 26 to December 4 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

http://tidesandcurrents.noaa.gov/hab/habfs_bulletin_guide.pdf

To see previous bulletins and forecasts for other Harmful Algal Bloom Bulletin regions, visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive: http://tidesandcurrents.noaa.gov/hab/bulletins.html

Conditions Report

A harmful algal bloom is present along the Texas coast in the Aransas Pass area and within Corpus Christi Bay, alongshore Padre Island National Seashore and the South Padre Island region, and within the lower Laguna Madre and Brownsville Ship Channel area. Patchy high impacts are expected today through Wednesday alongshore the Padre Island National Seashore and South Padre Island region, and within the lower Laguna Madre and Brownsville Ship Channel area. Patchy low impacts are possible today through Wednesday in the Port Aransas/Corpus Christi region. Water samples last identified harmful algal blooms in the Galveston/Freeport area on November 17, and alongshore the Matagorda Peninsula and within Matagorda Bay on November 15. Associated respiratory impacts remain possible in these areas. No additional impacts are expected at the coast in Texas today through Wednesday, December 7. Respiratory irritation, dead fish, and discolored water have been reported from the Aransas Bay region. Respiratory irritation and dead fish have been reported along the South Padre Island region, and dead fish have been reported along the Padre Island National Seashore.

Analysis

A harmful algal bloom is present along the Texas coast in the Aransas Pass area and within Corpus Christi Bay, alongshore Padre Island National Seashore and the South Padre Island region, and within the lower Laguna Madre and Brownsville Ship Channel area. Water samples last identified harmful algal blooms in the Galveston/Freeport area on November 17, and alongshore the Matagorda Peninsula and within Matagorda Bay on November 15.

No new samples have been received from the Galveston, Matagorda, or Aransas/Corpus Christi Bay regions. The latest samples indicated 'low a' to 'low b' *Karenia brevis* concentrations in northwest Galveston Bay (11/17; TPWD), 'low b' to 'high' concentrations within Matagorda Bay (11/1-7; TPWD), 'very low a' to 'high' concentrations within Aransas Bay (11/28; TPWD), and 'medium' concentrations near the coast within Aransas Pass (11/28-30; TPWD). Discolored water and feeding birds have been reported within the Aransas Bay area at Rockport Harbor, Key Allegro (near the Little Bay jetties), and along the south side of Mud Island, where dead fish were also reported. Respiratory irritation has been reported from the Rockport Harbor area (12/2; TPWD).

Alongshore Padre Island National Seashore (PINS), two samples collected at PINS mile markers #0 and 60 indicate 'medium' *K. brevis* concentrations, and one sample from PINS mile marker #25 indicates 'high' concentrations (11/28; TPWD). Last week a high to very high chlorophyll (10 to >20 μg/L) feature was identified from MODIS imagery in this region (11/28-29). Dead fish have been reported along the Padre Island National Seashore to the 17-mile marker, with the heaviest of the fish kill just north of the 15-mile mark (12/2; TPWD).

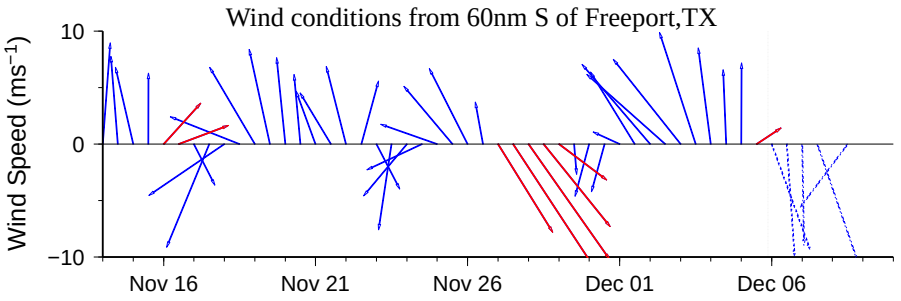
Several new samples collected over the weekend indicate that *K. brevis* concentrations alongshore South Padre Island continue to fluctuate, with the most recent samples identifying 'low b' to 'high' concentrations at the coast from Beach Access 6 to the UTPA Coastal Studies Lab (12/1-4; TPWD). Samples collected from within Brazos Santiago Pass and the lower Laguna Madre, at the Isla Blanca boat ramp and the east and west ends of the Queen Isabella Causeway, all indicate that *K. brevis* concentrations continue

to range between 'low a' and 'medium' in these areas (12/1-4; TPWD). One sample collected from the west side of the lower Laguna Madre, within Canal C at Long Island Village, indicates a decrease in *K. brevis* from 'high' (11/29-30) to 'low b' concentrations (12/2; TPWD). One new sample collected within the Brownsville Ship Channel at the San Martin boat ramp indicates that 'high' *K. brevis* concentrations are present within the channel, an increase from the 'medium' concentrations last reported on 11/15 (12/2; TPWD). Respiratory irritation was reported alongshore South Padre Island beaches over the weekend (12/3; Texas Coastal Naturalist) and dead fish were reported along the bay side of South Padre Island north of the Queen Isabella Causeway at Red Snapper Drive (12/5; TPWD).

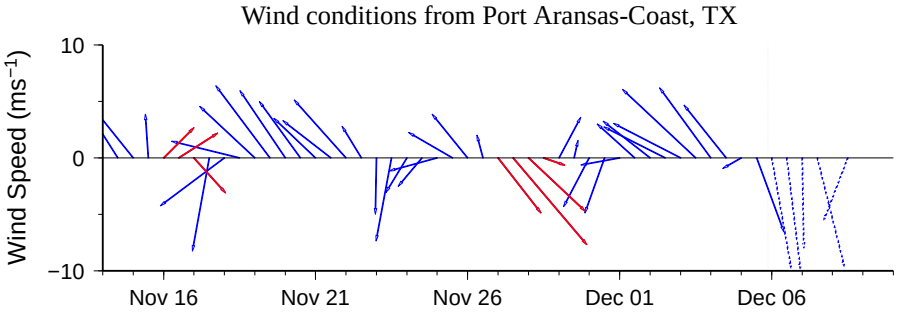
Imagery along the Texas coastline has been obscured by clouds over the past few days, limiting analysis. In MODIS imagery from 12/2 (shown page 1), elevated chlorophyll (2 to <10 μg/L) is visible stretching alongshore from Sabine Pass to the Freeport area, and in patches along- and offshore from the Matagorda Peninsula area to Mustang Island. Further analysis along the Texas coastline is not possible at this time. Last week, MODIS imagery (11/28-29) indicated a high to very high chlorophyll feature (10 to >20 μg/L) stretching along- and offshore Mustang Island and the Padre Island National Seashore region, and elevated to high chlorophyll (3 to 16 μg/L) stretching alongshore from the southern border of Texas to 40km south of the Rio Grande. These areas will continue to be monitored as imagery becomes available. Elevated chlorophyll at the coast may contain *K. brevis*, but could also be due to the continued resuspension of benthic chlorophyll and sediments, making it difficult to determine the extent of blooms from satellite imagery alone.

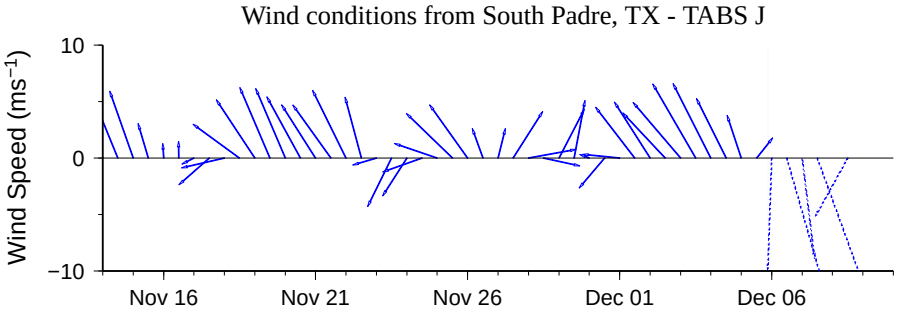
Forecast models based on predicted near-surface currents indicate a maximum bloom transport from coastal sample locations of 70km south from the Galveston Bay region, 85km south from the Matagorda Peninsula region, 60km south from Port Aransas, 70km south along the Padre Island National Seashore region, and 60km south from Brazos Santiago Pass from December 2-8. Onshore winds may increase the potential for impacts in the South Padre Island region over the next few days, while offshore winds further north will decrease the potential for impacts from Galveston to the Aransas Bay/Corpus Christi region.

Derner, Kavanaugh



Wind speed and direction are averaged over 12 hours from buoy measurements. Length of line indicates speed; angle indicates direction. Red indicates that the wind direction favors upwelling near the coast. Values to the left of the dotted vertical line are measured values; values to the right are forecasts. Wind observation and forecast data provided by NOAA's National Weather Service (NWS).



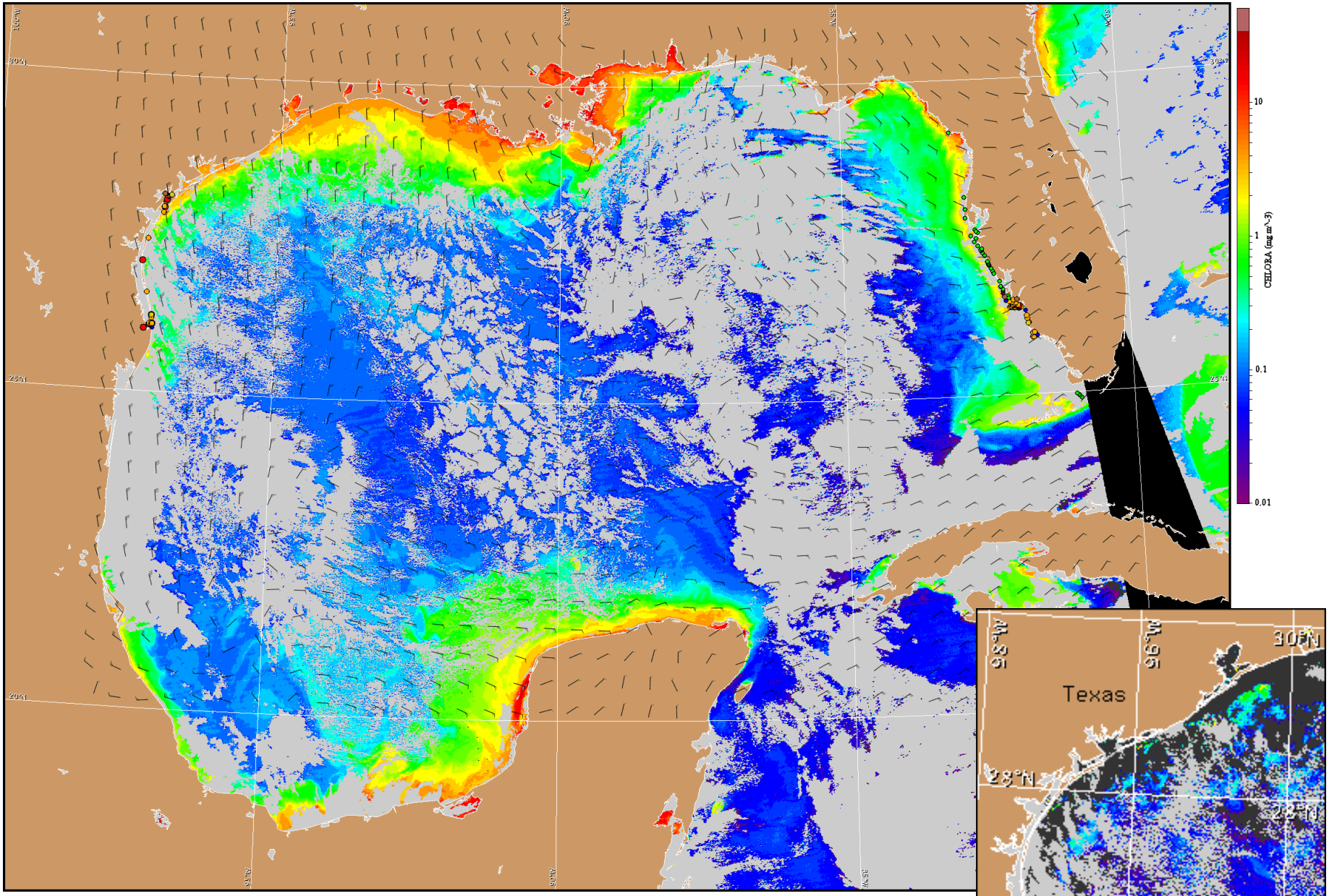


Wind Analysis

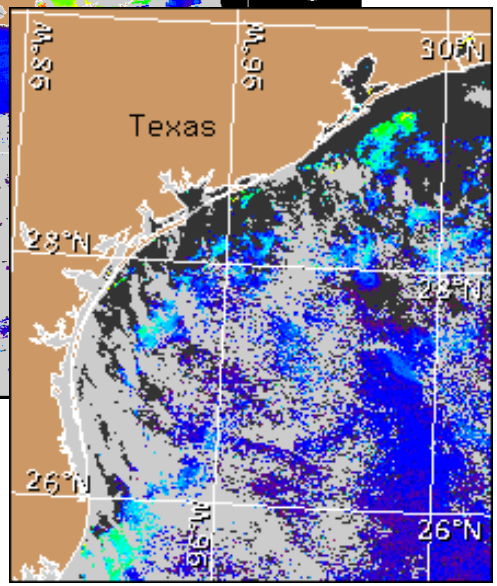
Galveston/Freeport: North winds (10-25kn, 5-13m/s) today through Wednesday.

Port Aransas: North winds (10-25kn) today through Wednesday.

South Padre: North winds (15-25kn, 8-13m/s) today through Wednesday.



Satellite chlorophyll image and forecast winds for December 6, 2011 12Z with cell concentration sampling data from November 26 to December 4 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide: http://tidesandcurrents.noaa.gov/hab/habfs_bulletin_guide.pdf



Verified and suspected HAB areas shown in red. Other areas of high chlorophyll concentration shown in yellow (see p. 1 analysis for interpretation).